Hobbies WEEKLY

CONTENTS

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A ROCKING CHAIR

FOR LAWN OR ROOM

HERE is a very useful type of chair for use in the garden or on the lawn. It may be made up as a rocking chair or it could have plain ground rails as an ordinary armchair.

The chair stands 3ft. 2ins. high, 2ft. 5ins. wide overall from the outside of the armrests, and also 2ft. 5ins. from back to front, measured across the rockers. Beech or any other hard and close grained wood can be used, and the finish may be either paint or oil, the latter, if used, being well rubbed in and renewed at intervals.

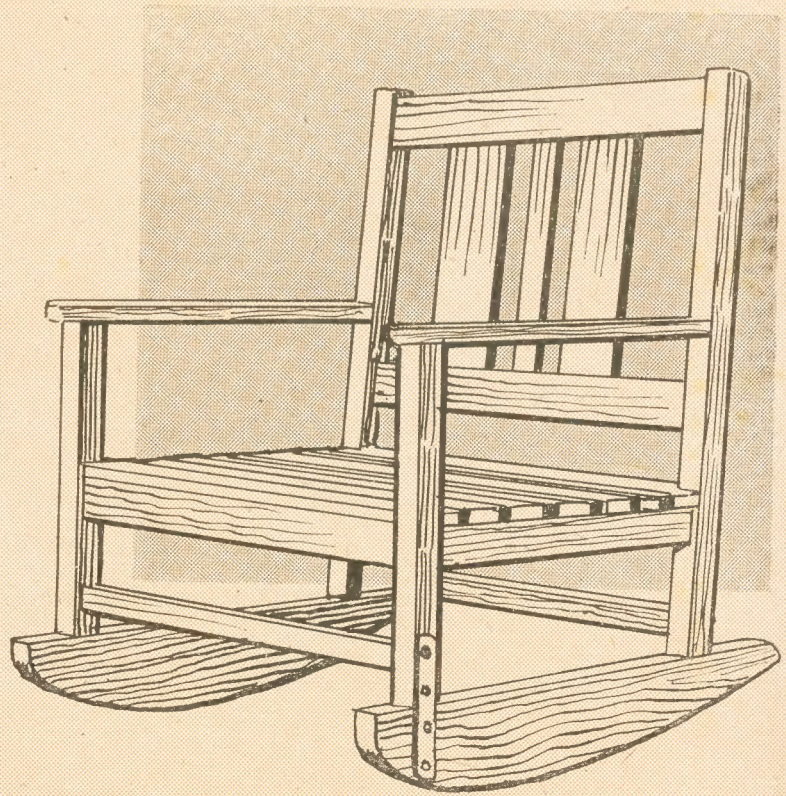
In Fig. 1 we have a front view of the chair giving the various heights and spacings of the rails, etc. The side view (Fig. 2) is very helpful, as it gives all the necessary sizes from which to work when setting out the sloping back of the chair and the rockers.

Framework

The two front uprights (A) should first be set out, and these are 1ft. 11ins. long. This measurement allows for a stub tenon on the top to fit into the arm rests, see the enlarged detail in Fig. 3. The lower end of the upright is tenoned into the rocker or the ground rail, whichever method is adopted.

In the side view of the chair (Fig. 2) is seen how the upright and rocker can be strengthened, indeed this is rather important, for the sake of firmness when rocking. A stout metal plate about 6ins. long is drilled in four places and screwed with countersunk screws as shown. The back legs (B) run at an angle with the top edge of the rocker and must, therefore, be carefully set out. It would be best to set out the leg and the rocker full size to the measurements given on, say, a large sheet of brown paper.

Note the measurement of 2½ins. at the base of upright (B), from this, it will be seen the correct slope can be got. The length of (B) is 2ft. 11ins., which includes the 1¼in. deep tenon at its foot.



If the ground rail is adopted, then the tenon will be 2ins. deep, and will run down, as in Fig. 4. The same remark applies to the front upright (A).

A mortise 1in. deep and 1in. wide will be cut in the two back uprights to take the ends of the arm rests, the tenons of which are shown in the upper diagram in Fig. 3. Mortises will also be cut in all four uprights to take the cross rails (C), (D), (E), (F) and (G) and where rails (C) and (E) meet in the back upright, the ends of the tenons will be cut to an angle of 45 degrees, as seen in the detail Fig. 5. The other tenons will be plain and look like that shown in Fig. 6.

The lengths of the various rails will be—(C) 23ins., (D) 22ins., (E) 18ins., and (F) 23ins. These sizes here given should not be adhered to strictly, but should be taken direct from the full sizes when being set out. The two rails (J) and the centre one (K) have their ends let into the cross rails (F) and (G), as shown in the two details in Fig. 7.

For the arm rests two pieces of ¾in. wood 20ins. long by 4ins. wide will be required. They will be shaped with the fretsaw to the outline given in Fig. 3, the cut edges being nicely rounded and glasspapered smooth. Fig. 4 shows the method of framing each pair of legs into a ground rail. The latter is 2ins. deep by 1⅝ins. wide; that is, to the thickness of the leg. The legs are 1⅝ins. square. Note how the tenons on the four legs go completely through the ground rails.

The rockers are made to the dimensions given in Fig. 2, the curve being gently tapered towards the back and cut with the fretsaw. The laths or battens forming the seat 24ins. long are cut, spaced and screwed to the side rails (E) with brass countersunk screws. In the plan, Fig. 8, on the right-hand side is seen the six seat batten, and it will be noted that the extreme back and front one must be notched out to properly fit round the legs.

The left-hand plan shows the relative position and widths of rails in relation to the uprights. Included in Fig. 2 is a scale of inches—very useful as a means of finding certain sizes or measurements which it has been impossible to show clearly on the diagrams.

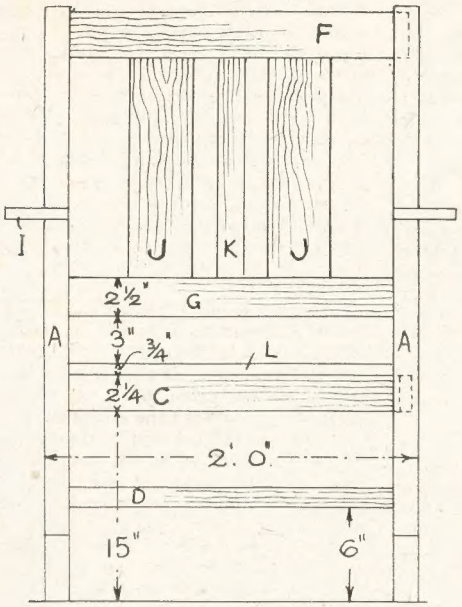


Fig. 1—Front view showing rails and back struts

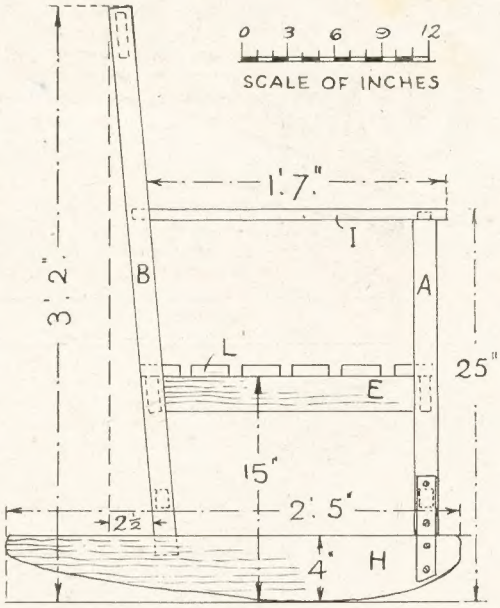


Fig. 2—Side view with shape of rocker parts

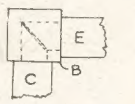


Fig. 5—Plan of corner joint

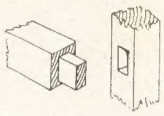


Fig. 6 — Mortise and tenon

Fig. 7—Shouldered rail

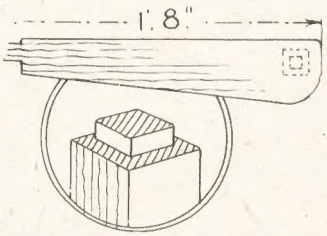


Fig. 3—Shape and joint of arm

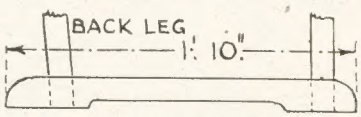


Fig. 4—Shape for ground rail

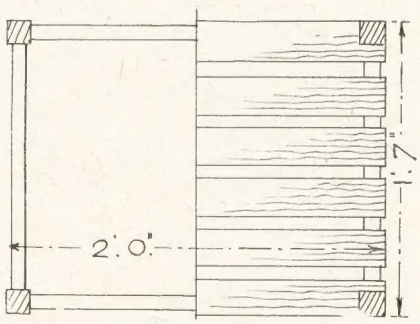


Fig. 8—Plan of half the seat frame and half the seat slats

Wood Fillers

CAN you give me a formula for a wood and grain filler which can be brushed on? Some wood and grain fillers do not seem to penetrate the wood properly and flake off. (K.J.H.—Peterborough).

THE trouble you mention is a common one, sometimes due to an inefficient filler, and sometimes through not rubbing the filler well into the wood and afterwards wiping the surplus away. There is no brush filler that we are aware of.

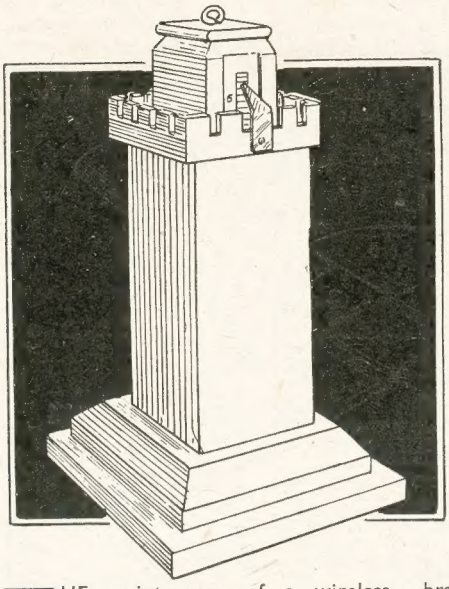
Parchment Making

COULD you tell me how parchment is actually made? I get rather interested when I come across these old trades. (F.S.—Aberdeen).

PARCHMENT is made from the skin of sheep, preferably those known as Hampshires. First the skins are washed and thoroughly cleaned, then limed for three or four weeks, again cleaned and then thickly split. They are then re-split along the fatty strata, and these fleshes are then tied on frames, watered with hot water, creamed with whiting and soda water on both sides, and dried in a hot oven. The whiting is then washed off, and the skin is rubbed with pumice which is repeated several times. Finally the skins are rolled and dried. The work calls for specialised knowledge and dexterity to attain a high grade product, but practice on small pieces will be the best way of acquiring sufficient skill to turn out a useful (and rare) product.

Full size patterns on page 319 for this novel

RADIO SAVINGS BOX



THE maintenance of a wireless receiver nowadays costs quite an appreciable sum yearly, what with the license, battery renewals, etc., so why not a box to hold, say, a weekly shilling to help in the matter? Here is a simple one, that has several points to recommend it.

It is self-registering for one thing, and is very difficult to pilfer from for another, having no coin slot into which a knife might be introduced, and the only method of opening being a tricky catch. For insertion or removal of the coins, the registering pillar has to be lifted out, and this proves difficult by anyone not in the know.

Box Parts

The parts of the box are drawn full size on the pattern page. Cut 2 of (A) in ¼in. fretwood, then 2 of (B) to the full dimensions, and 2 to the dotted line dimensions, in ⅛in. wood. The latter parts are cut up the centre, and across, as shown, and then glued to (B), as at (J), in Fig. 1.

It is important to see the central channel, which is divided by cutting the cross channel, is in true alignment when glued in position, as the metal guide catch, fitted to the registering pillar, runs up it.

Upper Base

Base (C) requires 2, cut in ¼in. wood In one only, the top one, the two mortises are sawn out, the other is just a plain square. At this stage, the four sides of the tower, parts (A) and (B) are glued together. Now test to see the tenons on parts (A) fit the mortises in the base.

All being satisfactory, glue the two parts (C) together and bevel the edges of the top one, that with the mortises cut out. Fig. 1 (K) shows the work at this stage, one side being removed to reveal the interior.

Lower Base

A second base (D) is cut, also from ¼in. wood, and parts (C) glued to it. Then the tower is glued on, and the whole left for awhile for the glue to harden. It is then cleaned up with glasspaper. The battlement strips (E), 2 of each being required, are sawn out of ⅛in. wood. They are glued round the tower at the top, and stick up above it just ¼in. This completes this part of the work.

For the registering pillar, cut 4 of (F) in ¼in. fretwood. Take two of them and down the centre chisel out a groove, so that when placed together, face to face, a hole is left running down the middle, just large enough to admit a length of stiff brass wire, as at (L) in Fig. 2.

Pillar Shape

Test this with the wire, a 6in. length of which should be cut and pushed down. The two parts can then be glued together. The other two parts of (F) are glued to this, either side, to make a square pillar.

At the top bevel off the square edges to conform to those already bevelled during the cutting. On one face of the pillar cut a shallow groove, 1/16in. deep and ½in. wide, into which the scale, which is cut from paper, can be glued. The whole should then be as at (M) in Fig. 2.

It may be mentioned here that the pillar could be made of 2 pieces ½in. thick wood, if wood of that thickness is available. When the glue is quite hard, the pillar should be well glasspapered until it fits smoothly in the tower, and can be raised or lowered quite easily.

It should be well tested, and if satisfactory, cut the square (G) from ⅛in. wood, round its edges and glue it to the top of the pillar. A hole is bored in the centre of it, to let the brass wire enter. See that this hole is placed directly over that in the centre of the pillar. To the bottom of this the catch guides is fitted. This part (H) on the pattern page, is cut to the shape from stout sheet brass, metal about 1/16in. thick or a little more. A hole to admit the brass wire should be drilled through it, exactly in its centre.

Adjustment

The catch guides is pushed on the wire, and is soldered to it, as at (O) in Fig. 3. Make a secure fixture here, as there must be no danger of a twist of the wire breaking the catch off. It may be necessary to enlarge the entrance to the hole, at the bottom end of the pillar to allow the catch to lie flat on it, so do this job with a few turns of a countersinking tool, just enough to admit the fillet of solder on the catch.

The top of the wire, above the pillar, is now bent to form an eye, as shown at (N) for lifting and twisting purposes. Now try the pillar in place, the side guides on the catch should slide easily in the channels in the tower.

Tower Action

At (K), in Fig. 1, a view of the tower is given, one side removed, to show these channels, and how necessary it is for a smooth action, to get them in true alignment vertically. The trickiness of the catch will then be apparent, as it will be impossible to pull the pillar out, until the catch is given an ⅛th of a turn, when its guide projections will disappear under the pillar, as in detail Fig. 3, which can only be done when the pillar is raised to the exact height which will just bring the guides in line with the horizontal channels in the tower.

The whole can now be varnished, stained as well if thought desirable. In the groove of the pillar glue a strip of

(*Continued foot of page* 308)

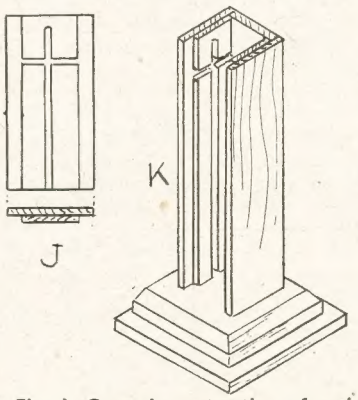


Fig. 1—General construction of main column

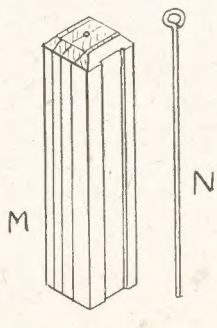


Fig. 2—Grooved pillar and wire

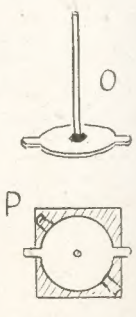


Fig. 3 — Catch guide

There's lots of fun to be obtained by making

A SIMPLE BOOMERANG

THIS simple but extremely efficient boomerang can be made in less than half an hour at a cost of a few pence. With practice, you can throw it to describe a flight circle of almost any radius, returning to hand each time. Furthermore, the same layout is effective for smaller or larger models, if required.

The boomerang itself consists of nothing more than two cambered wooden blades lashed together at right angles with a rubber band. Balsa wood is recommended for the blade material, since this is very light and relatively strong, besides being easy to shape to section. Also since the boomerang is light, it is not likely to hurt anyone should it accidentally strike them whilst in flight.

The Two Blades

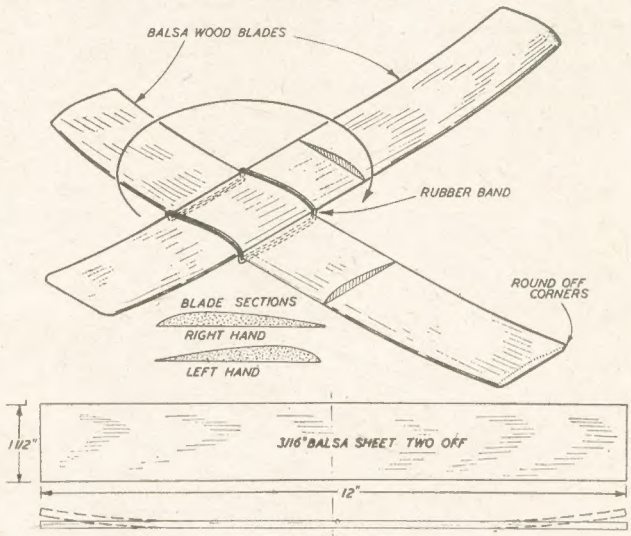
Make two blades 12ins. by 1½ins. from $\frac{3}{16}$in. balsa sheet which can be purchased in stock sizes, usually 3ins. in width. A 1ft. length of stock sheet will thus make two blades. These blades must then be sanded to a cambered section.

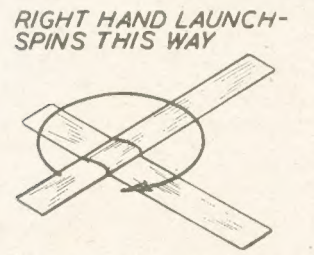
Note the two diagrams showing normal direction of rotation of the boomerang for right- and left-handed persons. Blade camber should be adjusted accordingly, so the thicker part of the blade is always nearest the front or leading edge of the longest arms of the boomerang. This will give best results.

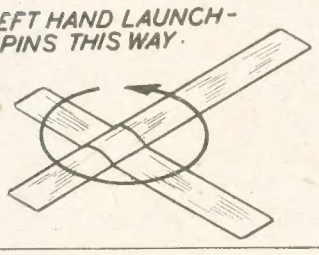
Blade section is actually not all that critical. You can simply sand in a symmetrical camber on top of the blades, with the thickest point at the mid section, if you wish. This will give best results when your boomerang is adjusted for large diameter flight circles, when the two blades are positioned in the form of a true cross with each leg of identical length—seen in the bottom of the diagrams.

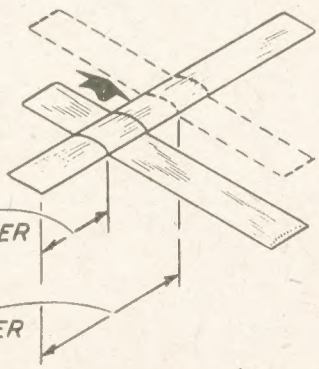
Each blade should be given roughly ¼in. upsweep or dihedral at each tip. To do this, simply hold the finished blade in the steam issuing from the spout of a boiling kettle and bend upwards to the desired curvature.

Lash the two blades together, as shown, with a rubber band so they are at right angles with the long legs of the boomerang roughly twice the length of the shorter legs. Hold one of the shorter legs between the thumb and forefinger and throw the boomerang forward with a spinning motion.









In Flight

It should describe a circular path, returning to somewhere near the point from which it was launched. Practice launching, adjusting the amount of spin given until it will return exactly to the launching hand.

To vary the diameter of the flight circle, increase the length of the longer legs to reduce the diameter or decrease the length of the longer legs to open up the circle. Adjust launching power accordingly. The upsweep or dihedral on the blades is to eliminate sideslipping and so a bad flight is almost certain to be due to a bad launch.

For indoor work you can make a very much smaller boomerang, keeping to the same blade proportions. In these the blades should have an aspect ratio of about eight. This means, simply, that the length of the blades should be eight times the width, and both blades, of course, must be of the same size.

Indoors

An 8in. boomerang works very well indoors, when blade thickness can be reduced to $\frac{1}{16}$in. Outdoors, an 18ins. boomerang can be lots of fun, this time using a blade thickness of ⅛in. Larger sizes still are practicable, but we would then advise using a stronger and heavier material for the blades, as it will be impossible to throw a large light balsa boomerang with sufficient force for a lengthy flight.

The main secret of success in all cases is plenty of practice. Then you can astound your friends with the skill you have so acquired. (229)

Savings Box—(*Continued from page 307*)

stiff white paper or thin card. Cut the pointer (I) from thin brass and screw it to the top of the tower, bend its pointed end inwards to nearly, but not quite, contact the scale. At this place make a mark across the scale.

Now raise the pillar until the guides can enter the horizontal channel, preparatory to lifting out, and there make a second mark on the pillar. This mark will be the place to lift the pillar to when inserting or removing the coins.

Between these two marks divide the scale into $\frac{1}{16}$in. divisions (the thickness of a shilling) and number them. Owing to the small space available for numbering, it is suggested that each 5 divisions only be marked, i.e., 5, 10, 15, 20, and so on. For making, one panel of ⅛in. wood 7ins. by 14ins., and one panel, ⅛in. wood 4ins. by 9ins. will be required.

On the beach or at the picnic entertain friends with

CAMP CONJURING

IT is a great mistake to imagine that conjuring tricks are only useful in winter. After a picnic lunch, while everyone sits round for a bit, is an excellent time to do a little 'leger-demain' for the amusement of your friends, while in camps there are quite a lot of opportunities to help in this way.

Although oft-repeated—do know your tricks inside out before performing and remember that half the effect lies in your patter. Also remember that people will always look to where you are looking.

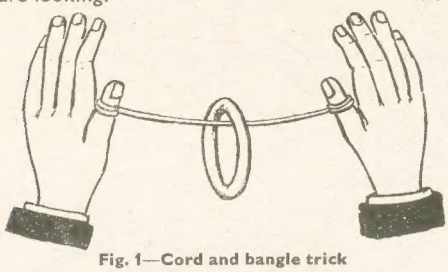


Fig. 1—Cord and bangle trick

Thus, if you want them to watch your hands—look at these intently yourself. If you do not want them to watch your hands, fix your gaze on (and talking draw the attention to) some quite different item.

Now for the first trick. You pass round for inspection a plain bangle such as can be purchased very cheaply at a chain stores. Everyone sees that there is no break anywhere. Next you ask to have your thumbs tied tightly to either end of a length of cord, Fig. 1. The ring is given to you, holding it you turn your back, say the magic word, and facing your spectators again show it *threaded on the string.*

Here is how it is done. To get the ring the people have examined on to the string would, of course, be impossible, but you have a second and identical ring which previously you have slipped up your forearm.

While turned away you get rid of ring number one in any convenient way—a poacher's pocket in a sports jacket is useful, or it can be dropped into the inside breast pocket—and at the same time you shake down ring number two on to the string. This trick is very effective.

Another good trick is to bring a cigarette out of your elbow. While cigarettes are being handed round you say that a conjurer has his own way of getting them. First show your hands are empty. Then raise your right arm, bending it at the elbow to a sharp angle with the hand resting on the shoulder, and carefully rub the point of the elbow with the left hand.

Nothing happens, and dismay is registered. You say that you must be working on the wrong side and so drop the right arm and bend the left, rubbing the elbow with the right hand. Delight spreads over your face as you produce, apparently from the joint, a cigarette which you proceed to light.

The trick here is that a cigarette was pushed up under the collar of your coat on the right side just where it goes over the shoulder and is tight-fitting. You raise the right hand and while rubbing the elbow (and drawing the attention to it) work the cigarette into the right hand (which is resting on the shoulder).

Now you reverse the action and rub the left elbow with the right hand which holds the cigarette, the realistic production of which is easy.

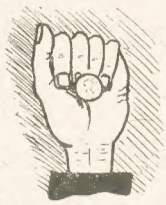


Fig. 2—Sixpence placed over finger tip

Borrow, or have on you four sixpences. Place one in the palm of each hand and close the fingers tightly over them. Now ask someone to put the other two, one to each hand, against the folded fingers, as shown in Fig. 2.

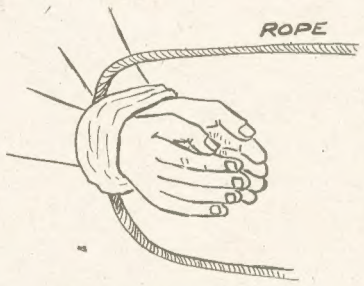


Fig. 4—The loop of the trick

Say you are going to do a little magical transference, make a quick movement of the hands and shake off the top sixpences. 'Oh, I have dropped them', you say, 'will someone please replace'? This is done. Another movement of the hands, which are kept well apart, and opening the fingers you show three sixpences in the one hand and only one in the other.

Sleight of Hand

This is real sleight of hand, but extremely easy to do. When you apparently drop the two top coins, what has really happened is that you dropped the two from one hand but took the coin on the other fingers into the palm. The fallen sixpences are replaced and opening your hand you are able to show three in one hand and only one in the other, one having seemingly jumped the gap.

A handkerchief appearing from thin air is always a popular trick and it can be done as follows. If made of silk, a handkerchief can be rolled into a very small space and be so held as a light little pack with a pin or rubber band. This can be hidden in the creases of a coat arm at the inside of the elbow, if the arm is kept slightly crooked. The hands are shown empty.

You pull up your sleeves in pukka magician fashion (talking the while) and in doing so take the rolled-up handkerchief into the palm of the hand that pulled up that sleeve. Cup the hands and rub them together. In this way the rubber band or pin comes away and the silk spreading, the handkerchief can be 'blossomed out' from your apparently empty hands.

A Cord Trick

Finally, here is an effective little trick.

Get someone to bind your wrists together with a handkerchief, after which let them run a length of cord through your bound arms as Fig. 3, two people standing to either side, holding the ends. A third person now must drape a large handkerchief or other piece of cloth over your hands. You say magic words, movements go on, and with your wrists still bound you shake clear of the rope, which is still held by the assistants.

The trick is shown by Fig. 4. Under the laid-over cloth the middle of the cord is worked down through the handkerchief (which can always be loosened a shade by a steady pressure of the wrists) to the palms as (B). Once made, the loop can be pulled to quite a big size and passed over one of your hands on the outside as (C). A quick jerk now and you are disengaged from the cord, having performed the apparently impossible.

Of course, you will not leave these tricks until you want to perform them, but practice beforehand to make perfect.

(225)

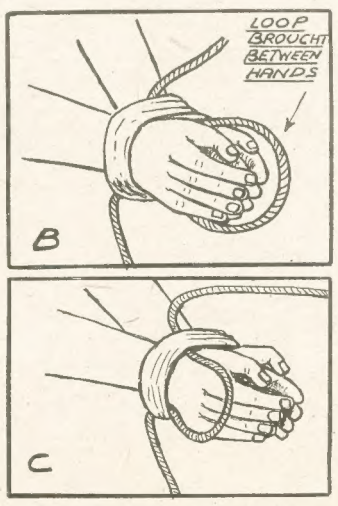


Fig. 3—The cord over tied wrists

Keep your friends intrigued by making the ARMOURED CAR PUZZLE

IT cannot be said that this armoured car is on the secret list, but what, to the uninitiated is 'hush-hush', is the way in which it is assembled. It consists of a number of wooden parts, all interlocked. The secret is rather subtle and by no means obvious, especially if the parts are well made and accurately fitting.

A first glance at the diagrams may give the impression that everything is terribly complicated, but, actually, the mass of dimensions only serves to make things easier. The joints involved—lapped halvings—are the simplest of joints to make.

It is possible to make the model twice the size indicated, and if the puzzle is intended to be given to children as a plaything, it is as well to make it as strong as possible. On the other hand, it can be made **half** the size given. Though stripwood is specified, plastics may be used, especially for the Connectors (part 4) which tend to be a bit delicate.

Base Grooves

The base (1) is 9-ins. by 1½ins. by ¾in., one part being required. On the top face cut grooves ¾in. wide and ¼in. deep, starting 2in. from one end and 1½ins. from the other. These grooves are then divided into three ½in. divisions and the outer thirds chopped away. As with all other joints, they must be dead accurate and nicely smoothed with glasspaper, wrapping the paper round a suitable stick and using like a file.

Two of the sides (part 2) are required but it is most important to note that these parts must be 'handed' (see Fig. 2).

If cut alike (as 2 in Fig. 1) they would not have outside vertical grooves as in Fig. 2. They are cut from 8-in. lengths of 1¼in. by ¾in. stuff. On the wide side, cut two ¾in. grooves, ½in. deep as shown, starting 1½ins. from one end and 1in. from the other. As an extension of these grooves on the inner side, cut a ¼in. by ¼in. groove right across.

Parallel with these is another groove, also right across, 1½in. wide and ½in. deep on the under side. At right angles to this (i.e. on the other wide side), make a groove 1½ins. wide and ¼in. deep. Chop off the corner, as shown in the sketch, and this part is finished.

Four uprights (part 3) are required, cut from ¾in. square stripwood, 2¾in. long. The grooves are ¼in. deep. The corner can either be rounded off or chopped off straight (as seen in the assembly drawing). It is an advantage to clamp these pieces together and trim them up together so that they are all alike.

Two connectors (part 4) are required of ½in. square stripwood, and are shaped somewhat like dumbells except that *the rounded part is not central* (see 4a). This rounded part is ¼in. diameter. As will be explained shortly, the whole puzzle depends on this part.

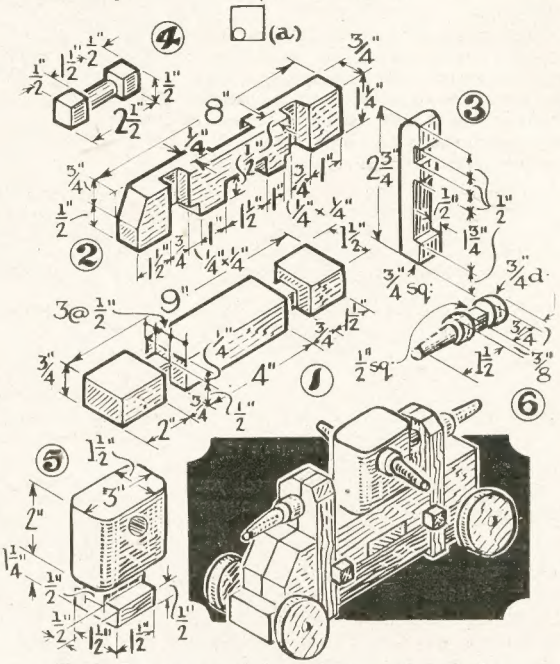


Fig. 1—The parts needed and the assembled puzzle

As the middle part is rather delicate, it may be a good idea to make this part from plastic or even of metal but in this case, the guns (part 6) and the wheels had best be made of plastic or metal too, so as not to draw undue attention to the connectors.

One turret (part 5) is required shaped from a piece of 3in. by 1½in. section wood, 3¼ins. long. By studying the assembly drawing and also the side pieces (part 2), one can see how the inverted T-shape of the bottom of the turret interlocks. A ¾in. diameter hole is bored for the guns.

The guns (part 6) are either turned in a lathe or whittled down from ¾in. diameter dowel. It will be seen that in the case of the fore and aft guns, the square part is gripped between a pair of uprights (parts 3). The guns for the turret are not dimensioned separately but they are in one piece, at either end of a piece of ¾in. dowel. This part does not interlock and is simply pushed in, friction tight, in the hole in the turret.

The wheels are not interlocking either, but are simply cut from ⅛in. plywood and screwed on with round-headed screws. It would not be much extra trouble to interlock these and the turret guns, but there is no point in describing a too-complicated model.

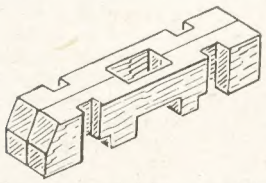


Fig. 2—Left and right side pieces

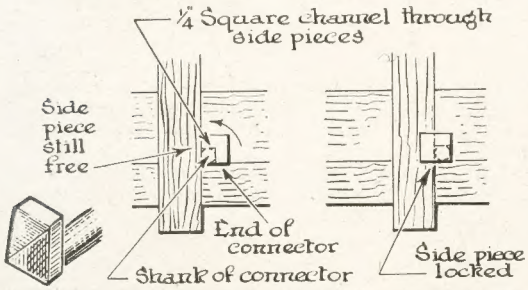


Fig. 3—How sides are locked, with detail of optional head shape

Lay the two side pieces together as in Fig. 2 but with the turret piece clipped between them. (Incidentally in fitting together, minor adjustments will probably have to be made.) Turn the base the other way up to that shown in the drawing. Stand the three parts just assembled upon it, slipping in the two connectors. Keep the square heads of these turned so that the vertical channels are clear and then press on the uprights.

Before these are right 'home' however, slip in the fore and aft guns. The connector heads are then turned and the whole job is locked together. The turret guns are simply pushed through the hole.

In showing 'how it is done', the turret guns are pushed out and, by implication, the would-be solver is led to believe that the connectors are pushed through. Even if, as is likely, he finds that they turn a little, he may attribute this to a little looseness in fitting and it does not immediately occur to him to give the heads a turn through a half circle.

The small sketch (Fig. 3) shows how the heads may be tapered off so as to afford very little finger grip. Apart from the interest in this model, it is an excellent excercise in cutting and fitting.

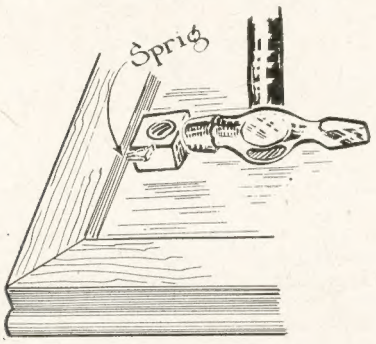
Here are some practical time and labour-saving

IDEAS for the HANDYMAN

A Picture Framing Hint

IN a properly framed picture, the glass, picture and plywood are held in place, at the rear, by 'sprigs'—small wedge-like headless nails—which are driven into the frame.

They should, of course, lie in the same straight line as the backing, and in order to drive them in thus, one has to move the head of the hammer over the backing of the frame, and tap very carefully otherwise the glass will crack. It is not always easy to catch the sprig as it



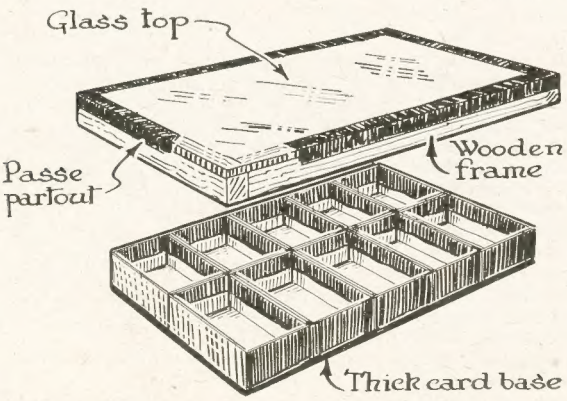
lies flat against the wood with the circular head of the hammer.

Here is a very simple dodge to obviate this trouble. Just get a metal nut—about 1in. square—and hold it against the sprig. Then tap the opposite end of the nut, and in goes the sprig.

Sprigs are very cheap, but when one needs merely half a dozen, it seems a waste to buy several dozen which may all be lost before they are needed again. A good substitute is used gramophone needles.

A Useful Matchbox Tray

A VERY useful tray for sorting postage stamps, rubber type for printing sets, small screws, clock parts, etc., can be made from the trays of matchboxes, preferably those of the 'Vesta' type. The tray can be as large or as small as one desires.



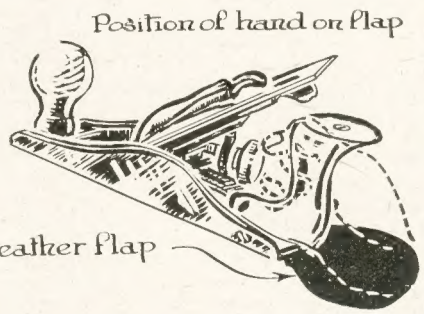
Glue the trays on to a sheet of plywood or stout cardboard, and glue the sides of the trays as they are assembled. The result is quite a strong job—not so 'kiddish' as you would think.

A glass-topped or transparent cover can also be provided, as shown. First make a wooden frame to slip over the nest of boxes, and fix on the glass top by means of *passe-partout* binding. The wooden frame need not be quite so deep as the matchboxes. The top then 'sits on' under its own weight and is dustproof. A sheet of plastic would be even better, if transparent, as it is not so likely to break under workshop conditions, as glass.

A Planing Hint

WHEN using a small iron plane of the type illustrated, it will sometimes, though not invariably, be found that the little finger side of the hand rubs against the wood being planed. When much planing is being done, this causes soreness. There is also a danger of pinching the hand.

The handle cannot be tilted forward because there would not be room for the hand, whilst if the sole of the plane was extended rearwards, the plane



would be too long for a short smoothing plane. Of course, this fault is not found in *all* planes.

The remedy seems to be to make the handle higher, but this is a question for the manufacturers to solve. In the meantime, a simple device will prevent sore hands.

Remove the handle of the plane by unscrewing the bolt which holds it down. Then cut a piece of *thin* leather (from an old gauntlet glove, for instance) to the oval shape shown. Replace the handle so that the flap is held down and you will have a leather flap on which the hand will rest as it planes, thus preventing actual contact between the hand and the wood.

Save Those Negatives !

CAMERA shutters are now clicking merrily, and the D. & P. merchants are working overtime. What happens to the hundreds of thousands of the negatives of these snaps? Some, it is true, deserve to be destroyed at sight, but the others are well worth keeping carefully, not only as mementos of a jolly holiday but as interesting records.

Moreover, who knows that among your old negatives there may be just

the sort of print that will pull off a prize in one of the many competitions?

Most people buy an album of sorts for their prints but the negatives are usually cast away in some drawer to get scratched, damaged and finally lost. If a particular one is wanted, a lengthy search must ensue.

Buy a packet of cheap envelopes, (or save used envelopes if you are thrifty) and from the corners cut out a cover that will contain your negative. This cover will, of course, be open on two adjacent sides. Number each negative, on the dull side margin, with pencil or ink, and number the cover in the same way.

You can make a long wooden box as shown to take these envelopes. A cardboard boot box can also be adapted to suit. Finally, a register is needed, to facilitate the location of any negative. This need not be very elaborate. A school excercise book is all that is required. It is ruled into columns for the

number of the print, the title and the date it was taken.

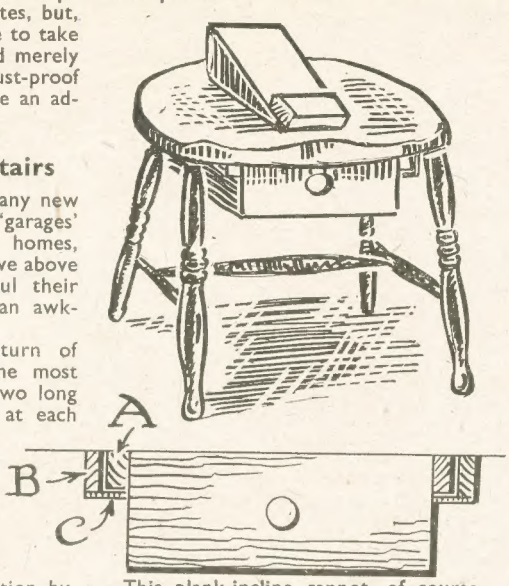
In the illustration, a box for *square* negatives is shown, this being the shape used by the writer of these notes, but, obviously, a box of suitable size to take ones negatives is made. The lid merely swivels round, though if a dust-proof lid can be managed, this will be an advantage.

Getting a 'Pram' Upstairs

IT is good to note that in many new blocks of municipal flats, pram 'garages' are being provided. In many homes, however, young mothers who live above the ground floor have to haul their baby's carriage up a staircase—an awkward and tiring job.

One husband of inventive turn of mind found a way to overcome most of the difficulty. He obtained two long planks of wood, and laid them at each side of the staircase. They thus formed an inclined plane at each side on which the wheels of the 'pram' could rest, but leaving a clear space in the centre of the staircase so one could walk up it in the usual way.

The planks were held in position by hinging them to the treads of the stairs. When they are not in use, they are turned upwards, vertically. Arrangements are made to keep these hinged planks tied or buttoned back when not in actual use to prevent accidents caused by anyone not familiar with their presence.



This plank-incline cannot, of course, be taken round corners and bends in the staircase, but usually the greater part of the staircase consists of a straight flight.

As the planks are painted to match the stairs and balustrades, the whole arrangement is by no means unsightly. The hinges are neatly screwed so when the 'pram' is no longer required, the runways may be removed leaving very very little trace behind.

Good Use for an Old Chair

IN many homes there is an old chair, usually minus the back, hanging around. Why not turn it into something definitely useful such as the boot cleaning stool shown here?

On the top fix an inclined board by means of two sloping blocks and at the lower end of this fix another smaller block to prevent the shoe slipping off. The board may be covered with a piece of lino if you have a piece handy.

To the underside of the top of the stool, a drawer is fixed to take the shoe-cleaning materials. You may already have a wooden box holding the brushes, etc., so there is probably no need to make a drawer especially.

The smaller drawing shows how the drawer is fixed. A strip of wood A is screwed each side, to the upper outside edges of the drawer, whilst another two strips B and C are joined together to form an angle, and in turn are fastened to the underside of the stool.

Fix a knob to the front of the drawer and there is your boot-cleaning stool ready.

From The Editor's Notebook—

I SOMETIMES get asked by individuals or clubs or firms to recommend the name of a craftsman who can undertake the making of first-class models or toys. A number of names and addresses are already on my register, but maybe there are among the new readers some who would like to have their name added. If so please let me know. You must realize, of course, that the standard of work must be very high, for the satisfaction of yourself and the purchaser of the article. It would, perhaps, help if you could also send a small specimen of work (which would be immediately returned) so I could enter in the suitable category. The worker's ability must cover making and finish—not only good workmanship in construction, but nicely completed with paint or stain, or whatever is usual. Real good model makers can often earn a little in this way, and I shall be glad to hear from any willing to undertake work should occasion arise.

* * *

FROM the ingenious ideas and suggestions put up to me from time to time by readers, I know many of them are potential inventors of all manner of gadgets and devices. They will thus probably be interested in the suggestion to form an Inventors' Club, which has been mooted by Mr. G. F. Kaye, of 59 Princess Court, Queensway, Bayswater, W.2. He is very keen on making gadgets himself and believes a co-operation amongst kindred spirits would be to everyone's advantage. The proposal is intended to encourage the inventive genius which is probably lying dormant for lack of opportunity and knowledge. This appears to be the chance to advance both, and it is hoped to arrange meetings, committees, officers etc.—all on a businesslike footing. A nominal charge of 2/6 for membership is being made, and no doubt readers interested will get in touch with Mr. Kaye for membership or further details.

* * *

ARE you interested in keeping a formicarium? No, it is not something terrifying, or noisy or messy—just a community of ants in a glass case! And there is more in it than you might imagine, as 15-year-old Tom Walker of Woodfield Avenue, Accrington, has discovered. The colony live in a narrow layer of soil between two pieces of glass and sealed at the sides in the same way. With a magnifying glass you can thus watch the astounding activities and communal life of the ants living inside. There are water stores, food chambers, and even a well defined cemetery. Tom indeed asserts that the ants even have a funeral procession in paying their last respects. The grave is dug by the workers who spray the corpse with formic acid, which prevents fungi forming and hastens decomposition. Well, well! By the way the name formicarium is simply a derivation of the Latin 'formica'—belonging to ants. So there is another interesting hobby if you want one!

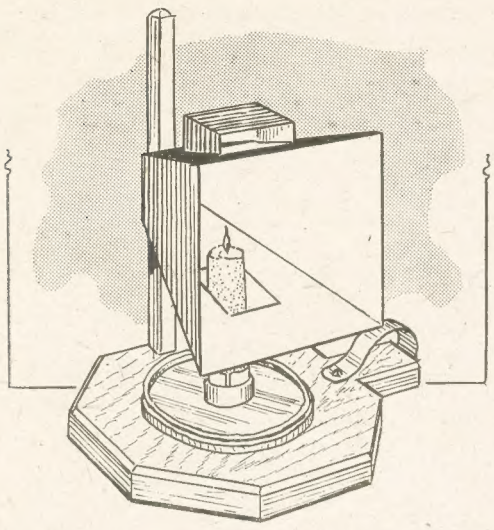
* * *

WHAT a pity it is there is at present no possibility of those large design sheets and models we published before the war. I still get a large number of requests for them, but unfortunately most of them are out of print. On the other hand, some fortunate pre-war readers still have their copies and many have made up those wonderful large London Models of St. Paul's, the Tower Bridge, Buckingham Palace, etc. One such reader is Mr. W. C. Wilkes, of Cheltenham Road, Paulsgrove, Portsmouth, who spent 21 consecutive evenings (including Sunday?) in making our Model St. Paul's Cathedral (Kit. No. 240 Special). This was his first architectural model although he had previously completed galleons and the popular Stage Coach. He would like to continue with Buckingham Palace if he could get hold of a design.

The Editor

A handy article for bedside use is this

CANDLE READING LAMP



THIS style of lamp was deservedly popular some years ago, but the advent of electricity seems to have forced it into the background somehow. It is a pity, for many people still have to use a candle for bedroom lighting, and the habit of reading in bed has certainly not lost its popularity. A home-made example of the lamp is illustrated, the comparitively feeble illumination being concentrated by the reflector to give a passable light on the printed page, and lessen the strain on the eyesight.

It can be made from the simplest materials, requiring only a piece of some hardwood, 6ins. wide and 7½ins. long, with a scrap of fretwood, and a small sheet of tinplate. The base, A in Fig. 1, is cut to the octagonal shape shown from the hardwood, a thickness of ½in. being suggested.

The Pillar

In the centre of this a disc of the fretwood is glued and pinned. At B is shown the pillar on which the reflector slides. It is a strip of wood, ½in. square with a ¼in. by ½in. tenon cut at its bottom end. Where shown on the plan view of the base, cut out a ¼in. by ½in. mortise for the pillar and glue it in place. Complete this part of the job by working a ⅛in. chamfer on the edges of the base.

Several parts are now shown in Fig. 2 grouped together. For the candle holder C, get a press lid from any conveniently sized tin, about 3ins. in diameter. A piece of 1in. wood rod is required (a piece of broomstick would serve) ¾in. long. Reduce a ¼in. of this at the top to 13/16in. diameter, bore a hole down the centre for a fixing screw and provide a tin disc the same diameter to rest on it, also with a central hole, as at D. This forms the lower part of the candle socket.

For the upper part which grips the candle, cut a piece of tin to size at E, bend round to a circle and nail to the top of D. Probably the end edges of this will not quite meet together, but that will not matter in the least. Now punch a hole in the centre of the press lid, put candle socket on and drive a screw through the lot, including the tin disc of course, into the centre of the lamp base.

Reflector

For the reflector a pattern must be made. This is given in Fig. 3. All four sides of this are alike as regards dimensions so those given will apply to the rest. Draw this pattern on thin paper and gum it to the sheet of tinplate. Lay it on a piece of hardwood and cut out the square holes in two of the sides with a cold chisel.

The shape can then be cut with tin snips or with scissors, though in the latter case the scissors will probably need resharpening afterwards. Note that two narrow (⅛in.) laps are left on two opposite sides for joining up. Now soak the paper pattern off in hot water and dry the tin.

Bend the sides to an angle of 60 degrees, hammer the tops over at right angles and solder to the other sides. About ⅜in. of the front edges is bent over and hammered down to thicken the edges of the front, the sharp cut edges not being advisable here.

The Light Guard

For the light guard at the top of the reflector, cut from the tin a shape shown at F, in Fig. 2. Bend at the dotted lines to right angles, bend over the ⅛in. laps each side, and solder to the top of the reflector to cover the ventilation hole.

A simple fitting is now required for sliding the reflector up or down the pillar. For this cut another piece of tin to the size at G, in Fig. 3, and bend it round three sides of the pillar. This part should be soldered to the back of the reflector and be bent as may be necessary for it to grip the pillar tightly enough for the reflector to stay in whatever position it is slid to. A little careful adjustment here will ensure a smooth action.

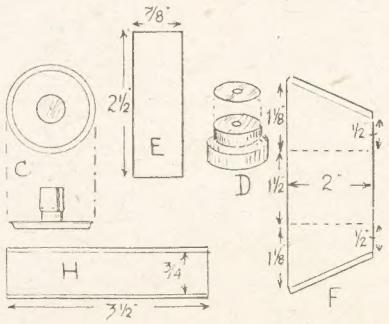


Fig. 2—Various parts for the holder

The Handle

For a handle, cut another piece of tin to the dimensions given at H, in Fig. 2, allowing ⅛in. each side for lapping over. Hammer these laps down flat, then bend the tin to the curve seen in the general view, and fix to the base with two screws.

Now take all metal parts off the base and give the latter a coat of oak stain, and then two of clear varnish, or such other finish as most suits the particular wood employed.

The outside of the metal parts should be enamelled any colour preferred, the metal being cleaned with soap and soda water beforehand to remove dirt and grease, such as may have accumulated by handling during the work of cutting and shaping. Test the fit of the candle in the socket, and bend, if necessary, to ensure a good grip.

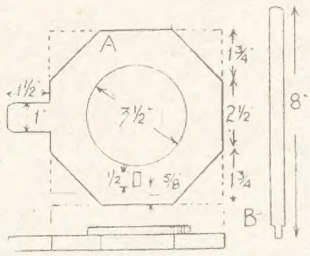


Fig. 1—The base and pillar

All being quite satisfactory, rescrew the metal parts to the base. The top of the pillar, by the way, should be rounded off a little to improve its appearance.

The lamp can now be tested and should give a good ray of illumination, the reflector being moved until the flame of the candle is approximately at the centre of the reflector. The reflector is shifted lower down as the candle burns lower.

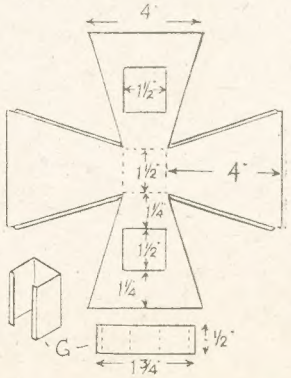


Fig. 3—Reflector and slide shapes.

How the amateur electrician can undertake
TWO-WAY SWITCHING

IN old type houses and, unfortunately, in some of those of more modern construction, the lighting installations are not of the most convenient kind. One opens the front door at night and has to grope around the wall at the far side of the hall to find the switch, or walk up a dark staircase to switch on the landing light. Such inconveniences can easily be overcome by installing two-way switching, and at very small cost.

Safety Rules

Before beginning electrical alterations of any kind it is essential to take every reasonable precaution. Do not in any circumstances work on a live circuit. Always switch off at the main service switch or draw the circuit fuses. SAFETY FIRST must be the rule.

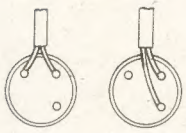


Fig. 1 — The two positions

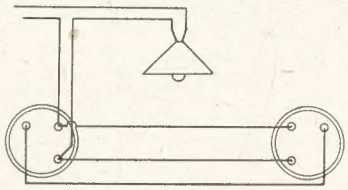


Fig. 2—One-way to two-way switch

There are also rules governing the generation and supply of electricity in this country laid down by the Institution of Electrical Engineers, and the first of the regulations reads:—'Good workmanship is an essential compliance with I.E.E. regulations'. Do not be contented with a 'lash-up' wiring system or with cheap fittings. Careless wiring may cause a fatality.

Conversion Procedure

A conversation to two-way switching is so simple that it can be made by any amateur at very small cost. All the requirements are: two two-way switches, two switch blocks, a length of 3 way 3/32 or 1/18 cab tyre or metal covered cable long enough to run from the old switch position to that of the new switch, and clips to secure it.

It may be necessary to run down the wall and along the wainscote or the corner between the floor and the wall, allowance must be made for such deviations.

First remove the one-way switch and the old wall block and discard them. When the original switch is removed, it will be seen that the two switch wires are in a horizontal position relative to one another. These must now be moved to a vertical position so that one is above the other, as shown in the diagram, Fig. 1.

In most cases two wires will be found twisted together in one of the terminals. These should be left as found, for one of the wires is a loop in from another point and must not be disturbed.

Fix the table clips securely in position at intervals of not more than 9ins. apart, and then fix the cable in position. When a deviation has to be made at right-angles the radius of the bend should not be less than 1½ins. If a corner has to be turned, then care has to be taken not to make too sharp a bend or the insulation may crack. It is advisable to chip the corner off the wall, just enough to take the cable at a gentle radius.

The switch blocks can then be bored to take the three cable wires, the holes being marked through the terminals with a small bradawl. To secure the wooden wall blocks it is advisable to plug the wall and use two thin 1½in. screws. One screw only usually allows the block to twist when the switch is in use.

Colour Cables

A triple cable has distinguishing insulation colours or a coloured cotton running through with each wire. The two-way switch has three terminals with contact screws. Place the red wire of the cable in the position of the original switch wire now moved to the vertical position and place the original two wires in the other two terminals each twisted together with one of the wires of the new cable as shown in Fig. 2.

It should be understood that this method of two-way wiring described is a conversion only, that is, an expedient to overcome a difficulty. If entirely new wiring was being installed a triple cable would not be necessary, the wiring would be run and the connections made as shown in Fig. 3.

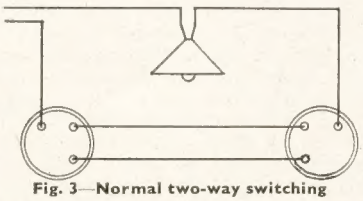


Fig. 3—Normal two-way switching

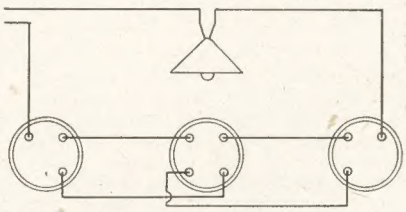


Fig. 4—Two-way and intermediate switch circuit

In some positions where two-way switching is already installed there may be a long passage with another door between the ends at which it would be convenient to have an intermediate switch. This can be installed by fitting a specially constructed intermediate switch and wiring it to the existing two-way switches as shown in Fig. 4.

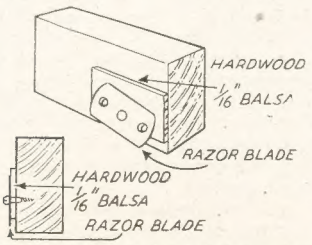
Earthing

To conform to the I.E.E. regulations metal cable casings must be earthed. At the switch ends of the cable twist a piece of bare copper wire tightly round the metal sheath and connect the other end of the wire to the metal conduit of the service wiring. Where there is a metal switch box it is easier to connect the bare copper wire to earth by clamping it under one of the cover screws.

Earthing difficulties can be avoided by using twin rubber covered cable. This will last many years before showing signs of perishing. Metal covered cable is much more durable and, if properly run and carefully connected, it is absolutely fireproof. Do not ever leave anything to chance. (218)

Model Aeroplane Hint

IF you have run out of strip balsa like 1/16in. square, procure a piece of hardwood about 2ins. by 1in. planed, and about 3ins. long. Get a piece of balsa 1/16in. sheet, 36ins. long. Drill two holes through end holes in razor blade, into hardwood, have blade pointing down one end slightly. Put a piece of 1/16in. balsa in between razor and hardwood. Put two screws through razor blade and through 1/16in. balsa, and tighten. There is your tripper. You can cut your strip 1/16in. sheet up.



Attaching Railway Wagons

HERE is a tip for attaching toy railway wagons together. Get as many hook and eye fasteners as are required. Nail one of the eye fasteners to the back of the wagon, and nail one of the hook fasteners to the back of another carriage.

How to get real pictorial value and interest in your HOLIDAY "SNAPS"

IT is interesting to note that some of our seaside resorts are again running photographic competitions with good money prizes to encourage visitors to use their cameras to advantage. A glance at the literature, which is obtainable on application to the Information Bureaux or by request to the Town Clerk of the Corporation, reveals the use of suitable slogans.

For instance, Southend says 'Make Your Camera Pay For Your Holiday' and a similar kind invitation is presented by Eastbourne. It is just possible that the town you are spending or have spent your holiday in is also organizing something on the same lines and would like to have your co-operation in making their advertising a success.

The Reason Behind

The scheme is obviously advertising but not only with the idea of influencing you to visit their town. No one thinks that a photographic competition could possibly carry much weight in that direction. But the publicity department of any place is very concerned to find what the visitors really enjoy most in what is offered them in amusements, sports, scenery, etc. Therefore, every print sent in for the competition is of some value to the authorities, and good use is made of the winning pictures in connection with Official Guides, Posters, etc.

It was recently our good fortune to receive an invitation to an exhibition of prints sent in for one of these competitions. As a result of the many surprises experienced, together with some of the specimens seen, we decided to contact readers of *Hobbies Weekly* at an early date and to tell them 'what to do and what not to do' when competing in such a contest.

The Old Inn at West Wycombe

Disappointing Entries

The winning prints, together with about 100 others were well displayed on the walls, but the remainder were in a pile on a large table. The rules of this competition were extremely simple. Prints could be mounted but this was not necessary. They could be printed by the competitor or by the chemist or dealer round the corner. Size was immaterial. In fact, the only real condition was that the exposure had to be made in the town and before a certain date.

In conversation with one of the judges the writer learned that so far as the number of entries was concerned the competition was a success. But it was most surprising and very disappointing that the great majority (between 70 and 80 per cent of the entries) were without any pictorial value or what might be termed 'topical' interest.

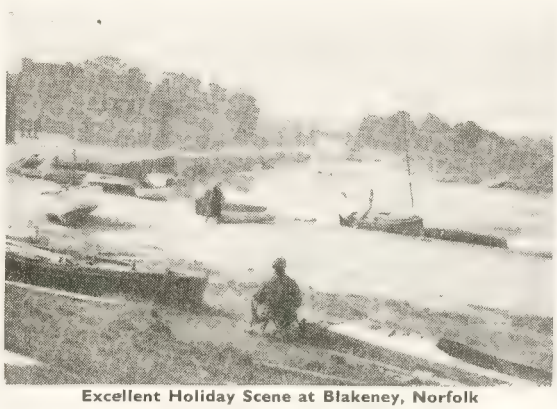
In view of this judgment the writer was determined to have a look at the 'throw-outs' But first let us give views on the winning pictures. The 'First' was a very charming figure study. Perhaps study is rather overdoing it, for it was probably just a chance happy snap, of a kiddie playing with spade and pail on the sands. The photographer had waited for the right attitude and expression and, for the right splash of sunlight. The 'Second' was a delightful tree subject with correct lighting for shadow effect and backed by some beautiful clouds. Apparently these two gave the judges their hardest task in deciding which should be awarded the first prize.

All the other winners were quite good examples of thoughtful camera work. They included various types of subjects, many of them typical of what the town offered for the enjoyment or amusement of its visitors. Consequently they appealed to the authorities for future publicity work.

It is doubtful, however, if any print would have been accepted for either of the Royal or London Salon Exhibitions, for although they were very good, they were not outstanding either in originality or pictorial quality. Every one, however, showed careful thought in selection, posing, composition, mounting and 'clean' presentation.

What a contrast to that pile on the large table! No wonder the judges did not trouble to display these on the walls. Quite frankly they did not warrant a second look. It was a surprise to think that anyone should waste time in sending such stuff in or even spend any money on producing such prints.

There were specimens of almost every fault; stains, movement both of camera and figures, sea horizons running uphill, finger markings, bad trimming and mounting, and plenty of incorrect exposures. Apart from this carelessness it was also surprising to find so many duplications of certain subjects which seemed to indicate that the persons never moved very far from one spot.



Excellent Holiday Scene at Blakeney, Norfolk

There is no better way of learning and achieving improvement in this hobby than to enter such a competition. Do not get the idea that you are up against better and more experienced workers and that you, therefore, stand no chance. That is a fallacy and it is bad for you to have such a thought, as it definitely tends to cramp your outlook.

Competition Demands

So, if you can enter any competition, please do so and put all you know into your effort. Make sure of the exposure and be careful to note the best position before making the exposure. Be clean in the manipulation of the print, i.e., trimming and mounting. As regards the latter part of the work, do try to leave a rather wider margin at the bottom to include a title written in pencil as neatly as possible.

Some may think all the prizes go to those who make enlargements but this is not quite true. Obviously, if an amateur considers his result is worth enlarging he must have got something that is good. So he will take extra care to make his entry really attractive to catch the judges eye. But it does not follow that a prize will be gained. A small contact print can possess originality and good pictorial quality and will thus compel attention in the judging.

Well, having given some hints on how to, or how not to, select and finish an entry for a competition, you would, perhaps, like to have a few regarding the choice of subject.

You will have realised already that as the competition is being organised by

the corporation it is a form of advertising in connection with the effort to popularise the town as a holiday resort. Secondly, you as a visitor are, in a sense, being asked to let them know, by means of your hobby, what items have attracted and interested you most during your stay in the town.

What is Wanted

Were they the natural beauty spots, places of historical interest, sporting events or amusement centres? These and any other subject will quite naturally have a strong appeal to you on account of your camera work. For, if you are keen, you will always be on the lookout for snaps to take home as mementoes of a pleasant holiday.

Quite a number of visitors, who are not photographers, take back a few picture postcards but the results you collect are or should be something rather better. If that thought is in your mind every time you make an exposure, you can be assured you are doing exactly what the corporation want you to do and your entries are bound to have the judges consideration.

A good Wave Study is always desirable in a holiday collection but it must be a picture of a wave and not of a crowded beach as well. Choose a suitable spot with a full view of the wave breaking against rocks, or with a glorious splash on the sands and do not forget to include some clouds. Fishing Boats should be snapped just when they are being hauled in or being got ready for taking the water. In either case try to include some of the fishermen in the picture; they make it.

Landscape Suggestions

A Landscape should if possible include a farmhouse or a church or other building well known as one of the beauty spots of the neighbourhood, but before taking the view make quite sure you have selected the best position from a pictorial viewpoint. Always remember that a few yards to the right or left may have the advantage of a better lighting on one or more of the principal details. Of course, the lighting is extremely important, wherever trees happen to be a feature. A country lane on a sunny day makes a charming study if there are some tree shadows across the path or roadway.

Country Scenes

Pastoral Scenes should have consideration, especially if there is a stream or pond in the make-up, and a few cows, some grazing and others lying down. Such a scene is also enhanced if a five-barred gate can be included or, perhaps, a rustic bridge across the stream.

Beach Scenes can be very disappointing and extra care is needed to make such look pictorial. If it is a small sandy beach situated below cliffs it might be possible to climb out on to some rocks at one end and so include the whole of the beach with a background of cliffs and rippling waves in the foreground. A sailing craft near at hand will help and again do not forget the clouds.

Buildings

Some of our seaside resorts possess very fine buildings such as Town Halls, Churches, Bandstands and possibly one or two very ancient and historic edifices. Any of these is worth a little attention. As a rule they are in a busy part of the town, so early morning may prove the best time for the exposure. If the Parish Church is architecturally beautiful you should certainly try one or two interior studies, but get the Vicar or Verger's permission to do so.

These few suggestions of subjects should enable you to make quite a good collection of negatives and, doubtless, other ideas will present themselves when you are on the spot. The great point to remember, whether you intend to enter a competition or whether you are only making use of your hobby, is that every exposure you make is an aid to your memory of a jolly fine holiday. By keeping a print of each in an album you will be able to live that holiday over again and again in years to come. It will form a book for a pleasant half hour of memory later on.

Some Helpful Replies of Interest—

Animal Models

I AM considering the possibility of making life-sized birds and small animals, but find it difficult to find suitable materials. (C.E.H.—Paignton).

THERE is no cheaper material than sawdust for modelling, and glue is the least expensive of the adhesives. The result leaves much to be desired as a modelling medium, and we do not think you will find anything really more suitable for your purpose than the Pyruma you mention. The most economical method of using this is certainly not to model with the medium solely. Instead, make up a core of rough wood, chiselled to the shape crudely, of course. The core should leave room for about $\frac{1}{2}$in. of Pyruma to be modelled over it. If a few tacks are driven in, leaving the heads sticking up about $\frac{1}{8}$in., the Pyruma will not be likely to break away. See the core is quite dry before applying the Pyruma, or else escaping steam may crack the model.

* * *

Caravan Painting

I AM building a caravan of aluminium, and dural sheets, and have been told that if I paint it, the brush marks are bound to show. Would you please tell me if this is right? (A.W.E.—Rochester).

THE composition of some of these aluminium alloys makes them troublesome to paint often; about the best plan is to wash over with strong soda water, then to apply two or more coats of undercoating. On this, apply the paint, giving a second coat if necessary. Any brush marks can be usually removed by carefully rubbing over with powdered pumice stone on a felt pad, using a little water as well. When dry, coat with a clear cellulose varnish. It would be as well to test the paint on a spare panel of the metal first. You might enquire as to the most suitable paint for the job before undertaking the work. Brolac is to be recommended.

* * *

Nesting Box Position

I INTEND to place in my garden, a blue-tit nesting box. I understand this box should be placed at a certain height and in a certain position. Could this height and position be given, please? (W.J.M.—Ewell).

YOU should place the nest-box on the ivy-covered bough or trunk of a tree, or upon the bark of a tree, not less than 6ft. above ground level, and not more than 20ft. above ground. The entrance should not face direct south sunshine which would enter the entrance hole, nor should it face due north or north-east to receive cold winds, nor in the direction of the prevailing winds of your district. The box should be placed away from noisy buildings where the birds would see people near them, away from bird-tables or other places where sparrows would be common all day, and out of the reach of cats. The entrance hole should not be more than $1\frac{1}{2}$ins. wide, or even $1\frac{1}{4}$ins. If the birds do not use the nest-box this year, leave it in position so they will be accustomed to it and possibly use it next year.

* * *

Cycle Light Control

KINDLY let me know how to make the time-saving process of switching both front and rear light together on a cycle. (E.B.W.—Aberdeen).

AN arrangement whereby both rear and front lamps operate simultaneously from a battery in the front lamp, is sometimes found. No battery is used in the rear lamp, but the screw holder of the bulb is in electrical contact) (via the fixing bracket, etc.) with the cycle frame. The front lamp bulb holder is similarly in contact with the frame, and an insulated wire is run from the 'pip' contact of rear bulb to the same contact of the front bulb. When the front lamp is turned on, both bulbs then light together. If the front lamp is not intended for such purposes, the necessary contact from the pip of the front bulb, can be obtained by twisting an insulated wire on to the brass strip of the battery which engages with the bulb when the battery is inserted.

STAMPS Free!! Twenty unused (2½d.).—G. H. Barnett, Limington, Somerset.

TWO wonderful battle-scene stamps free to all applicants for our beginners' approvals. 1/- packets. 100 World, 50 Spain, China, Germany, Hungary, Belgium, France. 25 French Colonials, Ceylon, San Marino. 700 Hungary, 20/-. 1,000 World, 10/-. Postage extra.—W. Tucker, Prestonford, Parracombe, Barnstaple, Devon.

APPROVALS. 3 a 1d.—Jeffreys, P.T.S., 2 Bay View, Craigavon, Port Talbot.

INTRODUCTIONS. Pen friends, companionship or marriage.—V.C.C., 34 Honeywell Road, London, S.W.11.

AMAZING but true! Send postage only for 10 different unused French, Italian, Greek and Chinese pictorials, or 1/- for album, mounts and 100 stamps. Tame mice for sale, assorted colours, 4/- pair delivered with free booklet on mice, cages, wheels, etc., stocked.—W. E. Hewison, 190 Victoria Road, Scarborough.

HOMEWORKERS required, either sex, light assembly, part or full time. S.A.E.—Esprey, Box 18, 41 Wade Street, Lichfield.

CONJURING. 3d. for new lists and free magical competition. — De Hempsey, 363 Sandycombe, Kew Gardens.

PERSONS required make fancy goods at home. Write for details.—Melton Manufacturing Co., Southgate Street, Leicester.

START yourself pleasant and profitable occupation (whole or spare time) making fancy leather and felt goods. For particulars and rates, write Grange Co., 4 Taylor Street, Leicester.

BUMPER packet free! Contains 40 different stamps including U.P.U., Silver Wedding, Coronation, Silver Jubilee, Peace, recent issues, etc. Send 3d. postage and request approvals.—J. F. Smith, 60 Boyne Road, London, S.E.13.

I MADE big money, you can do same. Send envelope, for my system tells you how.—J. H. Wamsteker, Box 34, Wynberg, Cape, South Africa.

PITMAN or Gregg Shorthand. Rapid postal courses. Particulars:—Shaw's Commercial School, Lancaster.

BE Taller in 14 days or money back. Details, 1d.—Stebbings System, 28 (HB) Dean Road, London, N.W.2.

£5 to £20 weekly earned at home, running your own Mail Order business. Details, 1d. — Stebbing Publications Ltd. (HB), Naphill, High Wycombe.

FASCINATING and profitable hobby, casting ornaments, toys, etc. You can easily make these yourself. Paints, brushes, and all accessories. Illustrated catalogue of 700 moulds, plus latest list of rubber moulds, with instructions, 9d. post free.—Cock of North Moulds (H), 140 Hollings Road, Bradford.

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LEARN Shorthand by September 16th. (1 hour's study nightly). 1st lesson, 2½d. stamp. Duttons (Dept. H.B.), 92 Gt. Russell St., London, W.C.1.

AMERICAN Magazines post free for one year. Popular Mechanics, 32/-; Popular Science, 28/6; Mechanix Illustrated, 22/6; Popular Homecraft, 18/-. Stamp for full list of others.—Willen Ltd. (Dept. 57), 101 Fleet Street, London, E.C.4.

ENTER the Juneero National Model Making Competition. Cash and kit prizes to the value of £150. Send now for details or see the Juneero Annual, 1/- from all Juneero Dealers, or 1/2 post free from Juneero Ltd., Boreham Wood, Herts.

IMMEDIATE delivery—Figured Oak Plywood, 24×24×$\frac{3}{16}$in., 5 for 35/-; 24×24×$\frac{1}{2}$in., 2 for 25/-. Mahogany box bottoms, 7$\frac{1}{2}$×9$\frac{1}{4}$×$\frac{1}{2}$in., 9/- doz. New Birch, grade III, 30×9×$\frac{5}{16}$in., 10 pieces, 15/-. Box sides, 35×6×$\frac{3}{4}$in., 10 for 15/-. All post paid. C.W.O. List of plywood, 2d.—H4/JDD. Storage, 71 Northcross Road, East Dulwich, S.E.22. Open every Wednesday from 6—9 p.m.

PRIME imported recessed hardwood wheels, 2$\frac{1}{2}$ins. diameter, 3/- dozen; 14/- half gross; 26/6 gross. Post free. Pressed metal hardwood and metal disc wheels, doll's house windows, doors, papers. Catalogues, 6d.—Jasons, 135 Nags Head Road, Ponders End, Middlesex.

KALEIDOSCOPES. Fascinating novelty for all ages. Ingenious optical creation of ever-changing colour designs. Endless variety. 2/6 post free.—'Stymit', Dept. H., 1-6 Gt. Winchester Street, London, E.C.2.

100,000 Government surplus bargains. Universal joints, approx. 2ins. long by $\frac{5}{16}$in. inside dia., 1/3, post 3d.; Aluminium rivets, approx. 1lb. assorted, 2/6, post 6d.; Insulation tape, R.A.F. quality, really adhesive, $\frac{3}{4}$in. width, 50yd. roll, 2/6, post 6d.; Giant balloons, R.A.F. Meteorological type, 3ft. 6ins. fully inflated, 5/-, post 9d.; Lightweight oilskin anti-gas coats, full length, brand new, 5/-, post 9d.; Waterproof suits, separate jacket and trousers in fine yellow waterproof, in neat canvas pack, brand new, 6/-, post 1/-. Send 3d. stamp for full list of these and other bargains for the Handyman.—Milligan's 24 Harford Street, Liverpool, 3.

WOODTURNING for Beginners. Complete guide including construction of a home-made lathe. Posted, 3/9.—Quadrant Books (Dept. 4), 17 Quadrant Arcade, Regent Street, London, W.1.

BE Taller. Quickly! Safely! Privately! No appliances—no tablets—no dieting. Details, 6d. stamp.—Malcolm Ross, Height Specialist, BCM/HYTE, London, W.C.1.

MODELS. You can make lasting stone-hard models with Sankey's Pyruma Plastic Cement. Supplied in tins by Ironmongers, Hardwaremen, and Builder's Merchants. Ask for instruction leaflet.

TRANSFERS for decorating toys, trays, furniture, fancy goods. List and samples free. Flowers, pixies, dogs, nursery rhymes.—H. Axon Harrison, Jersey.

RUBBER-Tyred Metal Disc Wheels finished in red, green or blue enamel. 2ins., 2/6; 3ins., 3/- per set of four. Post paid. Other sizes available up to 9ins.—The Joyden Toy Co., 193 Chase Side, London, N.14.

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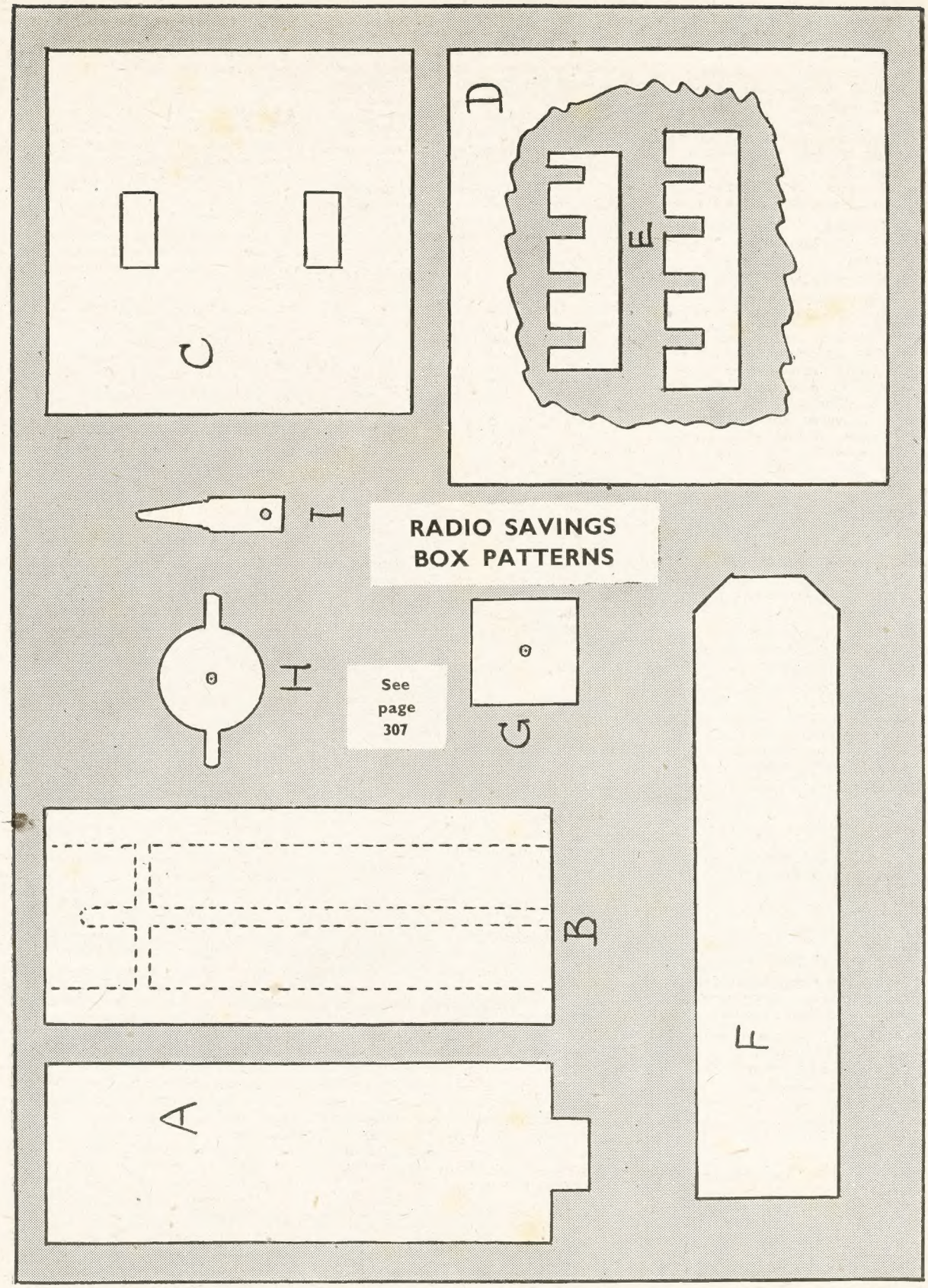
WHEELS for Toys, and other accessories. Full lists will be sent on application to the Joyden Toy Co., 193 Chase Side, London, N.14.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